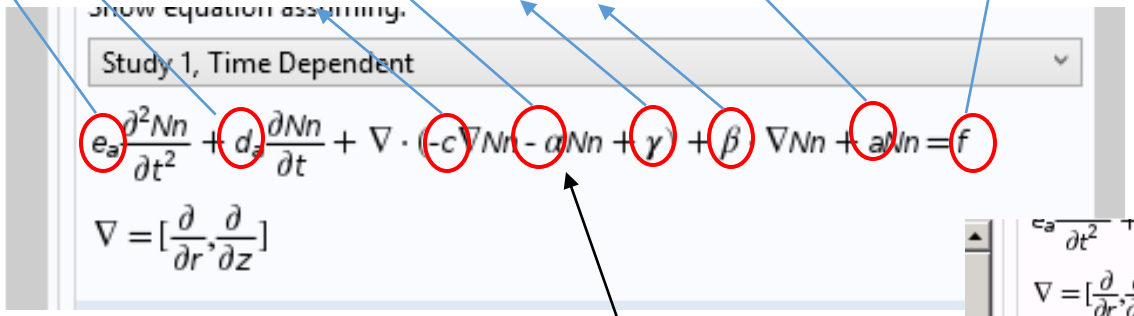
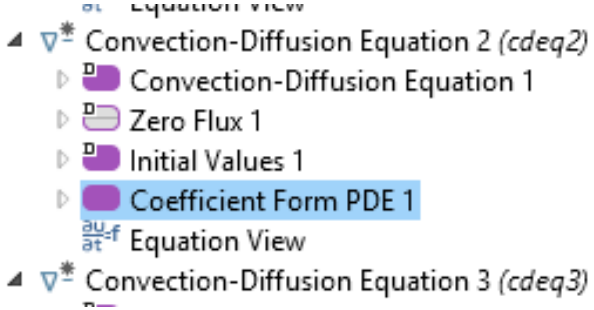
$$1\frac{\partial N_p}{\partial t} + \nabla \cdot N_p\mu_p\vec{E} + N_p(N_nK_{rpn} + N_eK_{rpe}) - G(\vec{E}) = 0$$

0 0 0 0





$$\frac{\partial N_p}{\partial t} + \nabla \cdot (\overrightarrow{J_{c\_p}}) = G_p(|\vec{E}|) - N_pN_nK_{rpn} - N_pN_eK_{rpe}$$

$$\frac{\partial N_n}{\partial t} - \nabla \cdot (\overrightarrow{J_{c\_n}}) = \frac{N_e}{\tau_a} - N_pN_nK_{rpn}$$

$$\frac{\partial N_e}{\partial t} - \nabla \cdot (\overrightarrow{J_{c\_e}}) = G_e(|\vec{E}|) - N_pN_eK_{rpe} - \frac{N_e}{\tau_a}$$

I need to set all these 3 equation in convection-diffusion equation mode

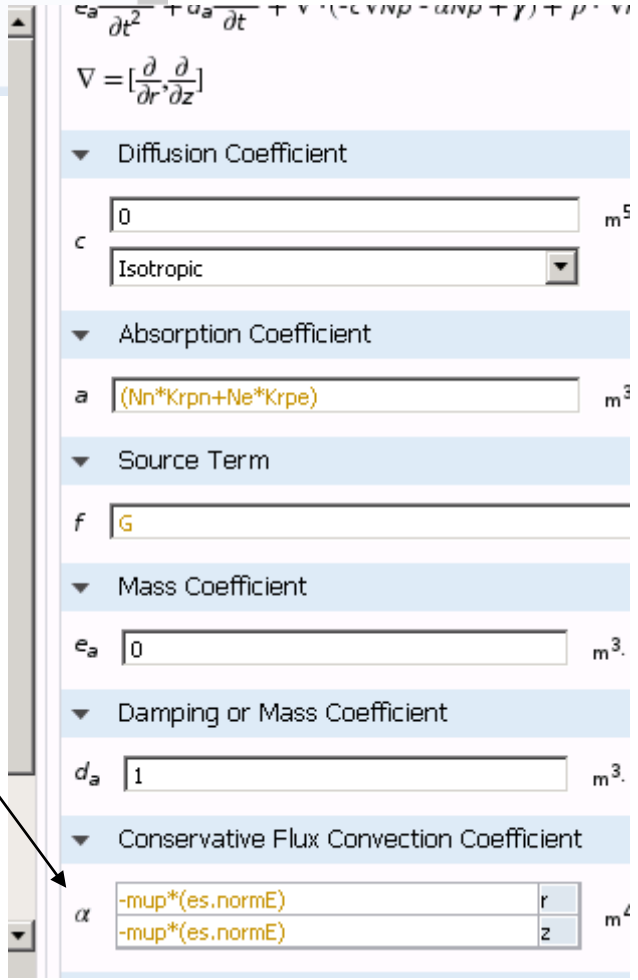
$$\nabla \cdot (-\varepsilon_0\varepsilon_r\vec{E}) = (N_p - N_n - N_e)qN_A$$

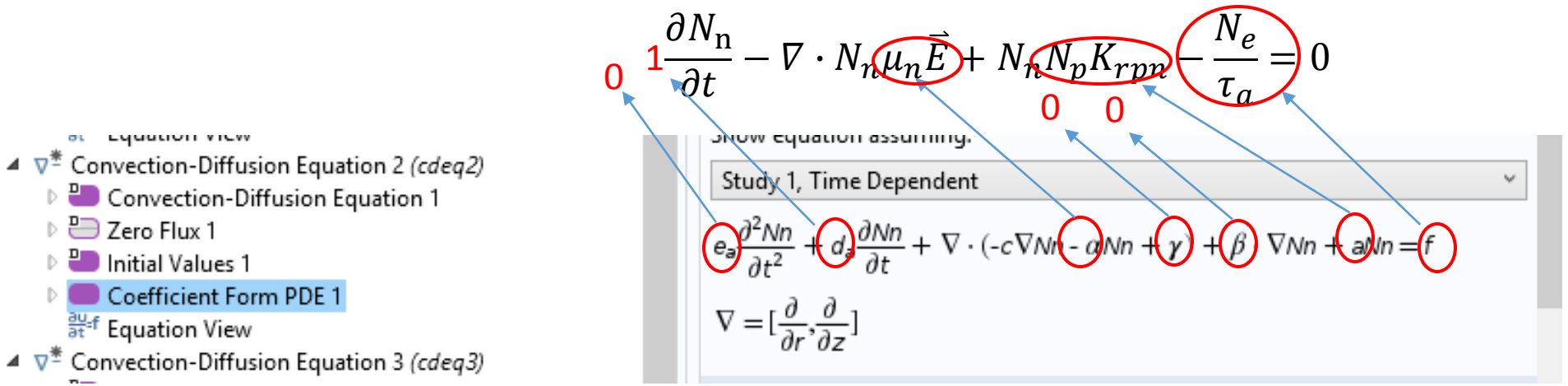
$$\overrightarrow{J_{c\_p}} = N_p\mu_p\vec{E}, \qquad \overrightarrow{J_{c\_n}} = N_n\mu_n\vec{E}, \qquad \overrightarrow{J_{c\_e}} = N_e\mu_e\vec{E}$$

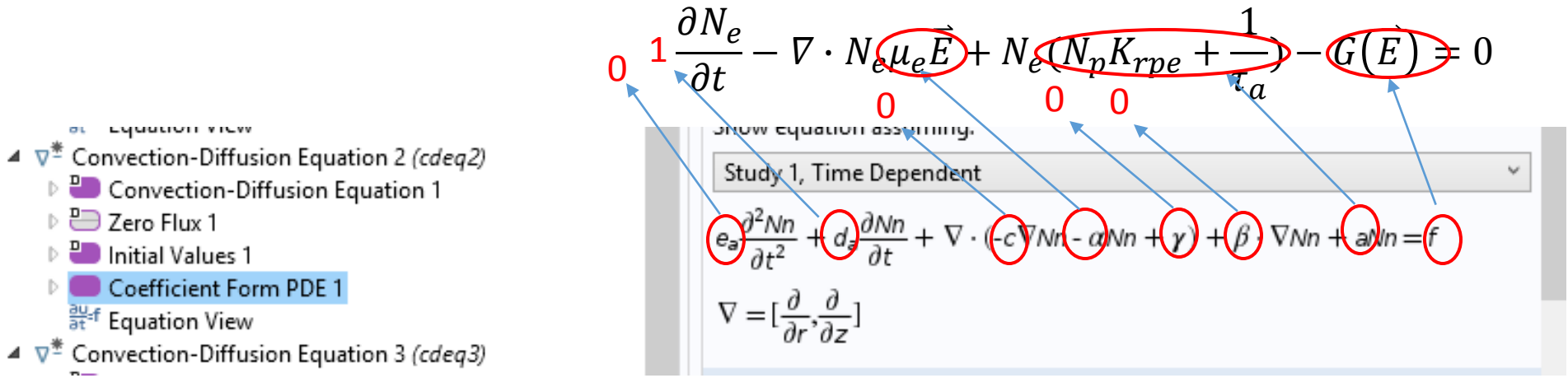
$$G_F(|\vec{E}|) = \frac{qN_0a|\vec{E}|}{h}exp\left(-\frac{\pi^2m^*a\Delta^2}{qh^2|\vec{E}|}\right)$$

$$G_p(|\vec{E}|) = G_e(|\vec{E}|) = G_F(|\vec{E}|)$$

This parameter causes error




Convection-Diffusion Equation 2 (cdeq2)
Convection-Diffusion Equation 1
Zero Flux 1
Initial Values 1
Coefficient Form PDE 1
Equation View
Convection-Diffusion Equation 3 (cdeq3)
$\frac{\partial N_n}{\partial t} - \nabla \cdot N_n \mu_n \vec{E} + N_n N_p K_{rpn} - \frac{N_e}{\tau_a} = 0$
0
1
0
0
Study 1, Time Dependent
$e_a \frac{\partial^2 Nn}{\partial t^2} + d_a \frac{\partial Nn}{\partial t} + \nabla \cdot (-c\nabla Nn - \alpha Nn + \gamma) + \beta \cdot \nabla Nn + aNn = f$
$\nabla = [\frac{\partial}{\partial r}, \frac{\partial}{\partial z}]$


Convection-Diffusion Equation 2 (cdeq2)
Convection-Diffusion Equation 1
Zero Flux 1
Initial Values 1
Coefficient Form PDE 1
Equation View
Convection-Diffusion Equation 3 (cdeq3)
0
1
0
0
0
Study 1, Time Dependent
$\nabla = [\frac{\partial}{\partial r}, \frac{\partial}{\partial z}]$